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PATENT

Attorney Reference Number 5437-65503-01
Application Number 10/684,272

In the Claims:

Please amend the claims as follows:

1. (original) A computer-implemented method of representing job candidate data for a job candidate, the method comprising:
receiving the job candidate data;
extracting one or more concepts from the job candidate data; and
storing data indicating the concepts as a representation of the job candidate data.
2. (original) The method of claim 1 wherein the extracting is performed via an ontology.
3. (original) The method of claim 2 wherein active entries in the ontology are limited to those approved by a human reviewer.
4. (original) The method of claim 1 wherein the extracting is performed via detecting a synonym of a concept in the job candidate data.
5. (original) The method of claim 1 further comprising:
assigning at least one of the concepts an associated concept score indicating a level of experience for at least one of the concepts.
6. (original) The method of claim 5 further comprising:
receiving other job candidate data for a plurality of other job candidates;
extracting a plurality of concepts from the other job candidate data;
assigning the concepts within the other job candidate data associated concept scores representing experience for the plurality of concepts; and
searching within an n -dimensional space for one or more job candidates, wherein the job candidates are represented in the n -dimensional space via the concept scores.

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7. (original) The method of claim 6 wherein n is greater than 100,000.
8. (original) The method of claim 6 wherein n is greater than 1,000,000.
9. (original) The method of claim 6 wherein n is greater than 3,000,000.
10. (original) The method of claim 5 wherein the concept score is calculated according to the following:
$$(\text{length of service} * \text{recency factor}) + \text{related job skills.}$$
11. (original) The method of claim 5 wherein the concept score is increased based on reputation of an organization at which an associated concept was applied according to the job candidate data.
12. (original) The method of claim 5 further comprising:
assigning a special-purpose concept with a score representing a geographical location of the job candidate.
13. (original) The method of claim 1 wherein at least one parent concept is extracted based on detection of a child concept related to the parent concept in a hierarchical concept arrangement.
14. (original) The method of claim 1 wherein at least one parent concept is extracted based on detection of multiple child concepts related to the parent concept in a hierarchical concept arrangement;
wherein a confidence score for the parent concept is calculated based on accumulation of confidence scores for the multiple child concepts.
15. (original) The method of claim 1 wherein the job candidate data comprises a resume of the job candidate.

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16. (original) The method of claim 1 wherein the job candidate data comprises assessment results of the job candidate.

17. (original) One or more computer-readable media comprising computer-executable instructions for performing the method of claim 1.

18. (original) A method for finding a plurality of job candidates suitable for a job requisition, the method comprising:

via at least one ontology-based extractor and at least one ontology-independent extractor, conceptualizing job candidate data for a plurality of job candidates to generate conceptualized job candidate data, wherein the conceptualized job candidate data comprises, for each job candidate, a set of concept scores defining a respective point in an n -dimensional concept space, the concept scores including concept scores for at least one job title, and at least one job skill for the job candidate, whereby the job candidates are represented by job candidate points in the n -dimensional concept space;

receiving desired job candidate criteria, wherein the desired job candidate criteria comprises a desired job candidate criteria point in the n -dimensional concept space;

finding m job candidate points closest to the job candidate criteria point in the n -dimensional concept space; and

in a graphical user interface, indicating job candidates associated with the m job candidate points as job candidates matching the desired job candidate criteria.

19. (original) A software system encoded on one or more computer-readable media, the software system comprising:

a conceptualizer, wherein the conceptualizer is operable to receive job candidate data for a job candidate and extract one or more human resource-related concepts therefrom.

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20. (original) A software system encoded on one or more computer-readable media, the software system comprising:

means for conceptualizing, wherein the means for conceptualizing is operable to receive job candidate data for a job candidate and extract one or more human resource-related concepts therefrom.

21-29 (canceled)

30. (original) A computer-implemented method of associating a score with a concept extracted from electronically stored job candidate data comprising at least a portion of a resume for a job candidate, the method comprising:

determining an experience level with respect to the concept for the candidate based at least on the job candidate data; and

storing a score indicating the experience level with respect to the concept for the candidate.

31. (original) The method of claim 30 wherein the determining is performed with reference to a length of service with respect to the concept based at least upon analysis of the job candidate data.

32. (original) The method of claim 30 wherein the determining is performed with reference to recency of the concept with respect to the concept based at least upon analysis of the job candidate data.

33. (original) The method of claim 30 wherein the determining is performed with reference to identification of job skills identified in the job candidate data and related in an ontology to the concept.

34. (original) The method of claim 30 wherein the experience level is determined based on the following calculation:

(length of service * recency factor) + related job skills.

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35. (original) The method of claim 30 wherein the recency factor is calculated according to the following:

$$k / (\text{number of years}).$$

36. (original) One or more computer-readable media comprising computer-executable instructions for performing the method of claim 30.

37. (original) A job candidate search software system comprising:
means for extracting a plurality of concepts from job candidate data; and
means for calculating a concept score generally indicating a level of experience for the concept based on the job candidate data.

38. (currently amended) A computer-implemented method for extracting concepts from job candidate data, the method comprising The method of claim 1 further comprising:
~~receiving the job candidate data;~~
extracting one or more concepts via application of rules to the job candidate data by a heuristic term extractor; and
~~storing a representation of the concepts.~~

39. (currently amended) The method of claim 38 wherein the method is performed by a system having one or more ontologies, and the extracting via application of rules extracts a concept not appearing in the ontologies as a concept.

40. (currently amended) The method of claim 38 wherein the extracting via application of rules extracts a concept not before encountered.

41. (original) The method of claim 38 wherein the heuristic term extractor extracts at least one job skill in the job candidate data as a concept.

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42. (original) The method of claim 38 wherein the heuristic term extractor extracts concepts by identifying a portion of the job candidate data as a job skills list and extracts at least one job skill in the job skills list as a concept.

43. (original) The method of claim 42 wherein the heuristic term extractor identifies job skills lists at least via detection of commas therein.

44. (original) The method of claim 42 wherein the heuristic term extractor identifies a possible job skills list at least based on the form of the possible job skills list.

45. (original) The method of claim 42 wherein the heuristic term extractor identifies a possible job skills list as a job skills list at least by detecting in the possible job skills list one or more job skills already classified in an ontology as job skill.

46. (original) The method of claim 42 wherein the heuristic term extractor identifies a possible job skills list as a job skills list at least by detecting one or more keywords in the possible job skills list.

47. (original) The method of claim 38 wherein the heuristic term extractor extracts at least one job title in the job candidate data as a concept.

48. (original) The method of claim 47 wherein the heuristic term extractor removes one or more common stopwords from the job title in the job candidate data.

49. (original) One or more computer-readable media comprising computer-executable instructions for performing the method of claim 38.

50. (original) The method of claim 38 wherein the heuristic term extractor extracts at least one job title in the job candidate data as a concept.

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51. (original) The method of claim 38 wherein the heuristic term extractor extracts a management experience concept from the job candidate data.

52. (original) The method of claim 51 wherein management experience is extracted based at least on a job title extracted from the job candidate data.

53. (original) The method of claim 51 wherein management experience is extracted based at least on the presence of management-indicative key words within the job candidate data.

54-63 (canceled)

64. (original) A method of representing job candidate data for a job candidate, the method comprising:

converting the job candidate data into a representation in an *n*-dimensional concept space; and

storing the representation in the *n*-dimensional concept space.

65. (original) The method of claim 64 wherein the representation comprises a point having coordinates for a plurality of axes associated with a plurality of concepts, wherein the coordinates of the point indicate concept scores for concepts associated with the axes.

66. (original) The method of claim 65 wherein at least one of the concept scores represents expertise in one of the concepts based on analysis of the job candidate data.

67. (original) A method of finding a job candidate suitable to fill a position, the method comprising:

receiving characteristics desired to fill the position;

matching the characteristics desired to fill the position to a set of a plurality of job candidates via an *n*-dimensional concept space.

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68. (original) The method of claim 67 wherein
the plurality of job candidates are represented by a plurality of job candidate
representations in the n -dimensional concept space;
the characteristics desired to fill the position are represented by a point in the n -
dimensional concept space; and
the matching is performed via a distance function to find the m job candidate
representations closest to the point in the n -dimensional concept space.

69. (original) A method of representing information of a job candidate, the method
comprising:
converting the information of the job candidate into a conceptual representation of the job
candidate; and
storing the conceptual representation of the job candidate.

70. (original) The method of claim 69 wherein the information comprises a resume
of the job candidate.

71. (original) In one or more computer readable media, a data structure representing
a plurality of job candidates, the data structure comprising:
a plurality of entries representing the respective job candidates, wherein the entries
comprise concepts and associated concept scores for the respective job candidates.

72. (original) The method of claim 71 wherein the entries are constructed via an
ontology having knowledge regarding concepts represented.